7.0 Conclusions

The Columbia River Basin is a unique and vibrant ecosystem that is at risk from toxic contaminants. Many challenges lie ahead to restore this ecosystem. This *State of the River Report for Toxics* is EPA Region 10's first attempt to understand and describe the current status and trends of toxics in this region of the United States. This report is intended to serve as a starting point for increasing public understanding about the impacts of toxics in the Basin and for finding ways to work in partnership with others to improve and expand current toxics reduction efforts. Specifically, its primary purposes are to inform citizens and decision-makers about the toxics problem and potential solutions; serve as a catalyst for increased citizen involvement and increased action; and inspire additional, more-efficient use of resources for increased toxics reduction and assessment actions.

While several monitoring studies are under way in the Basin to improve our understanding of the toxics problem, we must develop a more comprehensive and collaborative monitoring and research program. In addition, we must expand efforts to identify the sources of toxics in the Basin, characterize the types of contaminants, and quantify the contaminant load from these sources. We must also identify additional effective actions to reduce toxics and protect the health of the Columbia River Basin ecosystem, and we must continue to implement those actions.

This report focused on four contaminants: mercury, DDT and its breakdown products, PCBs, and PBDEs. However, we recognize that other toxics, including additional metals, dioxins, radionuclides, and pesticides as well as pharmaceuticals and personal care products, are also potential contaminants of concern. We know that these other contaminants need to be addressed in the future.

Meanwhile, many groups are conducting pollution prevention and cleanup efforts to reduce toxics overall and to reduce toxics in water, sediment, plants, and animals in the Columbia River Basin. Despite limited resources, these groups are making significant strides in reducing toxics in certain areas, but additional efforts need to be expanded throughout the Basin. The following Toxics Reduction Initiatives represent a first attempt at describing the next steps in the effort to reduce toxics. We look forward to a future public dialogue throughout the Basin as we refine and implement these initiatives.

8.0
Toxics Reduction Initiatives

The Columbia River Toxics Reduction Working Group has developed the following set of six Toxics Reduction Initiatives, which provide a broad overview of major actions needed to further reduce toxics in the Basin. A more in-depth and detailed work plan will be developed over the next year with stakeholder and public input.

Initiative #1: Expand toxics reduction activities

Federal, state, and local agencies have multiple regulatory mechanisms available to reduce toxics. Such mechanisms include TMDLs, NPDES permits, water quality standards, contaminated site cleanup, and programs to control pesticide usage. These programs need to be expanded. For example, additional toxics TMDLs and implementation plans are needed, and additional work is needed to identify other contaminated sites for cleanup.

It is also important to promote voluntary/nonregulatory initiatives. States and tribes have worked to reduce toxics using a variety of voluntary and nonregulatory activities. They have focused much of their work on the tributaries to the Columbia River. Excellent examples of voluntary programs are Oregon's Pesticide Stewardship Partnerships and the Pesticide Take Back Program. Support of local watershed groups in their efforts to complete toxics reduction projects should be continued. In addition, more partnerships should be developed with nongovernmental programs such as Salmon Safe and organizations such as Columbia Riverkeeper, other local nonprofit groups, and area industries.

Initiative #2: Identify, inventory, and characterize the sources of toxics in the Columbia River Basin

There have been past efforts to identify and characterize sources of toxics in the Columbia River and its tributaries,[1] some of which are ongoing (e.g., Upper Columbia River, Hanford, and Portland Harbor investigations; Working Group efforts; and TMDL development in the Basin). However, additional information is needed to better identify, inventory, and characterize the sources of these toxics. This information will be used to prioritize reduction efforts and develop long-term monitoring and research plans.

To fill in these critical information gaps, the Working Group has started to identify important "next steps." These steps include, but are not limited to, (1) identifying, inventorying, and mapping all potential sources of toxics, both within and outside the Basin; (2) determining the contaminants of concern from these sources; (3) collecting information on the concentrations of the contaminants of concern, where available; (4) determining the quantities of contaminants reaching the Columbia River and its tributaries, where possible; (5) evaluating the fate and transport of contaminants and their breakdown products from air and soil into the Columbia River and its tributaries; (6) determining the role of sediments as a source of contamination; and (7) prioritizing those sources where the greatest reduction efforts are needed and can be implemented.

Initiative #3: Develop a regional, multi-agency long-term monitoring program

There is no comprehensive, integrated monitoring plan for the Columbia River and its tributaries. This initiative will allow the Working Group to develop such a plan; ultimately, this plan would provide information on the locations and concentrations of toxics in the Basin, fill in data gaps in our scientific knowledge, evaluate the impact of toxics on the ecosystem, and characterize the information on the status and trends of toxics in the Basin. With this information, the Working Group will be able to target limited resources and tailor the monitoring program to obtain data from areas that have not been previously monitored (such as the mid-Columbia River and the Snake River).

Critical steps in the development of this monitoring plan include (1) completing a data gaps analysis of the Basin's contaminant data collected from 1994 to the present; (2) determining the geographic extent of the areas to be sampled and identifying which contaminants would be monitored; (3) determining the types of media to be sampled (e.g., water, sediments, and/or fish tissue); and (4) determining the frequency, specific locations, and techniques for sampling. Because of limited resources, any monitoring program needs to be coordinated among the different federal, state, tribal, local, and nongovernmental entities to leverage resources and avoid duplication.

Initiative #4: Develop a regional, multi-agency research program

While research is being conducted by different agencies on toxics in the Basin, no coordinated effort has been made to identify the highest priorities for research. A collaborative plan will help the Working Group further understand the Basin's contaminant problems and their relation to the food web, which will allow the Working Group to efficiently leverage resources among agencies. It will also enable us to develop an integrated approach that focuses on issues specific to the Columbia River Basin (for example, PBDE concentrations in osprey eggs) that can be addressed by scientists within the region (NOAA Fisheries, EPA Corvallis Laboratory, USGS Science Center, and others).

Initiative #5: Develop a data management system that will allow us to share information on toxics in the Basin

The ability to access information is critical to effectively evaluating toxics information. It is also necessary when prioritizing which reduction activities will provide the most benefits. Currently, no single database contains all of the data from monitoring efforts within the Basin. In addition, some of the data are not publicly accessible or are often available only in hard copy records. Some records are of unknown quality, and most are in differing formats.

While a single database would be useful, its development would be very expensive and would require dedicated resources to operate and maintain. As an alternative to a single database, the Working Group will explore the possibility of working with existing efforts such as the Northwest Data Exchange Network and the Pacific Northwest Aquatic Monitoring Partnership.

Initiative #6: Increase public education about the toxics problems and resource needs

Public support and concern related to toxics and their impact on human health and the environment are growing. Furthermore, there is a base of support in the Basin among citizens, watershed groups, and other stakeholders associated with local, state, tribal, and federal governments. Many of these groups are interested in working together to better understand and reduce toxics in the Columbia River Basin, with the goal of moving toward a Basin ecosystem that is healthier for all.

It will be important to educate the public further about the Columbia River Basin toxics problem, current efforts, and the need for increased action and resources to reduce toxics. The Working Group intends to work closely with the partners of the Columbia River Toxics Reduction Working Group and with Basin stakeholders to coordinate outreach to the public (including schools, business/industry groups, nonprofit organizations, farm associations, and watershed councils). Outreach efforts will include (1) holding public workshops and other public events throughout the Basin; (2) using multi-media tools, including websites, postcards, and posters, to educate and inform Basin residents about toxics; and (3) encouraging public participation in Columbia River toxics reduction activities.

9.0
A Path Forward

To a great extent, success will depend on a commitment to join forces to make the best use of available resources. This approach will require strong communication and collaboration among Basin agencies, organizations, and the public. We recognize that the citizens of the Northwest place a high value on a healthy Columbia River Basin ecosystem. Therefore, we plan to reach out to those who live, work, and play in the Basin; share information on risks to the Basin posed by toxics; and solicit help in restoring the Basin's magnificent ecosystem.

In 2009, the Columbia River Toxics Reduction Working Group will develop a draft work plan that will build on the successful and numerous toxics reduction efforts already accomplished or under way and will also identify new efforts to reduce toxics in the Basin. We will do this by hosting a number of watershed-based workshops in the Basin. The outcome of these workshops should be a toxics reduction work plan for the Columbia River Basin that will involve citizens; local watershed councils; Basin communities; other entities; and tribal, federal, and state governments in a collaborative partnership.

Columbia River Toxics Reduction Work Plan and Watershed Workshops

Late Winter – Early Spring 2009: The Columbia River Toxics Reduction Working Group develops draft toxics reduction work plan.

Late Spring – Summer 2009: Watershed workshops are held for Basin residents, local watershed councils and communities, tribal governments, and the general public to learn about, and contribute to, the draft work plan. Actions are initiated to evaluate the extent of toxic contamination in the Basin and reduce impacts.

Fall – Winter 2009: The Working Group finalizes a collaborative, watershed-based work plan that focuses efforts on implementation.

VISIT THE WEB More detailed information, including expanded data and reports, can be found by visiting EPA's Columbia River website: http://www.epa.gov/region10/columbia.